<110> JELTSCH, Markku M

ALITALO, Kari

OLOFSSON, Birgitta

ERIKSSON, Ulf

<120> GLYCOSYLATED VEGF-B AND METHOD FOR INCEREASING THE AMOUNT OF SOLUBLE VEGF-B

<130> 1064-48929PV Markku JELTSCH et al

<140>

<141>

<160> 17

<170> PatentIn Ver. 2.0

<210> 1

<211> 567

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(567)

<220>

<221> mat_peptide

<222> (64)..(564)

< 4	00	> 1															
at	g	agc	cct	ctg	ctc	cgc	cgc	ctg	ctg	ctc	gcc	gca	ctc	ctg	cag	ctg	48
Me	t	Ser	Pro	Leu	Leu	Arg	Arg	Leu	Leu	Leu	Ala	Ala	Leu	Leu	Gln	Leu	
		-20					-15					-10					
go	c	ccc	gcc	cag	gcc	cct	gtc	tcc	cag	cct	gat	gcc	cct	ggc	cac	cag	96
Al	a	Pro	Ala	Gln	Ala	Pro	Val	Ser	Gln	Pro	Asp	Ala	Pro	Gly	His	Gln	
	5				-1	1				5		•			10		
ag	g	aaa	gtg	gtg	tca	tgg	ata	gat	gtg	tat	act	cgc	gct	acc	tgc	cag	144
Ar	g	Lys	Val	Val	Ser	Trp	Ile	Asp	Val	Tyr	Thr	Arg	Ala	Thr	Сув	Gln	
				15					20					25			
																	٠
cc	c	cgg	gag	gtg	gtg	gtg	ccc	ttg	act	gtg	gag	ctc	atg	ggc	acc	gtg	192
Pr	0	Arg	Glu	Val	Val	Val	Pro	Leu	Thr	Val	Glu	Leu	Met	Gly	Thr	Val	
•			30					35					40				
go	c	aaa	cag	ctg	gtg	ccc	agc	tgc	gtg	act	gtg	cag	cgc	tgt	ggt	ggc	240
A]	.a	Lys	Gln	Leu	Val	Pro	Ser	Cys	Val	Thr	Val	Gln	Arg	Cys	Gly	Gly	
		45					50					55					
te	jc	tgc	cct	gac	gat	ggc	ctg	gag	tgt	gtg	ccc	act	999	cag	cac	caa	288
Cλ	/s	Cys	Pro	Asp	Asp	Gly	Leu	Glu	Cys	Val	Pro	Thr	Gly	Gln	His	Gln	
e	0					65					70					75	
gt	c	cgg	atg	cag	atc	ctc	atg	atc	cgg	tac	ccg	agc	agt	caġ	ctg	999	336
Vá	al	Arg	Met	Gln	Ile	Leu	Met	Ile	Arg	Tyr	Pro	Ser	Ser	Gln	Leu	Gly	

gag	atg	tcc	ctg	gaa	gaa	cac	agc	cag	tgt	gaa	tgc	aga	cct	aaa	aaa	384
Glu	Met	Ser	Leu	Glu	Glu	His	Ser	Gln	Cys	Glu	Cys	Arg	Pro	Lys	Lys	
			95					100					105			
aag	gac	agt	gct	gtg	aag	cca	gac	agc	ccc	agg	ccc	ctc	tgc	сса	cgc	432
Lys	Asp	Ser	Ala	Val	Lys	Pro	Asp	Ser	Pro	Arg	Pro	Leu	Cys	Pro	Arg	
		110					115					120				
tgc	acc	cag	cac	cac	cag	cgc	cct	gac	ccc	cgg	acc	tgc	cgc	tgc	cgc	480
Cys	Thr	Gln	His	His	Gln	Arg	Pro	Asp	Pro	Arg	Thr	Cys	Arg	Cys	Arg	
	125					130					135					
tgc	cqa	cqc	cqc	agc	ttc	ctc	cat	tqc	caa	999	cqq	ggc	tta	gag	ctc	528
										Gly						
140	J				145			-3		150	3	2			155	
220	cca	asc	200	tac	200	tac	caa	220	cta	cga	aaa	taa				567
										Arg		cga				307
ASII	PIO	Asp	1111	_	Arg	СУБ	Arg	гув	165	Arg	Arg					
				160					103							

<210> 2

<211> 188

<212> PRT

<213> Homo sapiens

<400> 2

Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu

1 5 10 15

Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln

20 25 30

Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln

35 40 45

Pro Arg Glu Val Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
50 55 60

Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
65 70 75 80

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
85 90 95

Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly

100 105 110

Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys
115 120 125

Lys Asp Ser Ala Val Lys Pro Asp Ser Pro Arg Pro Leu Cys Pro Arg

Cys Thr Gln His His Gln Arg Pro Asp Pro Arg Thr Cys Arg Cys Arg 145 150 155 160

Cys Arg Arg Arg Ser Phe Leu Arg Cys Gln Gly Arg Gly Leu Glu Leu

165 170 175

Asn Pro Asp Thr Cys Arg Cys Arg Lys Leu Arg Arg

180 185

```
<210> 3
    <211> 624
    <212> DNA
    <213> Homo sapiens
    <220>
    <221> CDS
    <222> (1)..(621)
COOLUMBS COVESS
    <220>
    <221> mat_peptide
    <222> (64)..(621)
    <400> 3
    atg age cet etg etc ege ege etg etc gee gea etc etg eag etg
    Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu
        -20
                             -15
                                                  -10
    gcc ccc gcc cag gcc cct gtc tcc cag cct gat gcc cct ggc cac cag
    Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln
     -5
                      -1
                           1
                                            5
                                                                10
    agg aaa gtg gtg tca tgg ata gat gtg tat act cgc gct acc tgc cag
                                                                         144
    Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln
                  15
                                      20
                                                           25
```

ccc cgg gag gtg gtg gcc ttg act gtg gag ctc atg ggc acc gtg

Pro Arg Glu Val Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val

192

30	35	40

gcc	aaa	cag	ctg	gtg	CCC	agc	tgc	gtg	act	gtg	cag	cgc	tgt	ggt	ggc	240
Ala	Lys	Gln	Leu	Val	Pro	Ser	Cys	Val	Thr	Val	Gln	Arg	Cys	Gly	Gly	
	45					50					55					
tgc	tgc	cct	gac	gat	ggc	ctg	gag	tgt	gtg	CCC	act	999	cag	cac	caa	288
Cys	Cys	Pro	Asp	Asp	Gly	Leu	Glu	Cys	Val	Pro	Thr	Gly	Gln	His	Gln	-
60					65					70					75	
gtc	cgg	atg	cag	atc	ctc	atg	atc	cgg	tac	ccg	agc	agt	cag	ctg	ggg	336
Val	Arg	Met	Gln	Ile	Leu	Met	Ile	Arg	Tyr	Pro	Ser	Ser	Gln	Leu	Gly	
				80					85					90		
gag	atg	tcc	ctg	gaa	gaa	cac	agc	cag	tgt	gaa	tgc	aga	cct	aaa	aaa	384
Glu	Met	Ser	Leu	Glu	Glu	His	Ser	Gln	Сув	Glu	Сув	Arg	Pro	Ĺys	Lys	
	•		95					100					105			
aag	gac	agt	gct	gtg	aag	cca	gac	agg	gct	gcc	act	ccc	cac	cac	cgt	432
Lys	Asp	Ser	Ala	Val	Lys	Pro	Asp	Arg	Ala	Ala	Thr	Pro	His	His	Arg	•
		110					115				-	120				
								·								
ccc	cag	ccc	cgt	tct	gtt	ccg	ggc	tgg	gac	tct	gcc	ccc	gga	gca	ccc	480
Pro	Gln	Pro	Arg	Ser	Val	Pro	Gly	Trp	Asp	Ser	Ala	Pro	Gly	Ala	Pro	
	125					.130					135					
tcc	cca	gct	gac	atc	acc	cat	ccc	act	cca	gcc	cca	ggc	ccc	tct	gcc	528
Ser	Pro	Ala	Asp	Ile	Thr	His	Pro	Thr	Pro	Ala	Pro	Gly	Pro	Ser	Ala	
140					145					150		•			155	

cac gct gca ccc agc acc acc agc gcc ctg acc ccc gga cct gcc gcc 576

His Ala Ala Pro Ser Thr Thr Ser Ala Leu Thr Pro Gly Pro Ala Ala

160 165 170

gcc gct gcc gac gcc gca gct tcc tcc gtt gcc aag ggc ggg gct tag 624
Ala Ala Ala Asp Ala Ala Ser Ser Val Ala Lys Gly Gly Ala
175 180 185

<210> 4

<211> 207

<212> PRT

<213> Homo sapiens

<400> 4

Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu
-20 -15 -10

Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln
-5 -1 1 5 10

Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln

15 20 25

Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
30 35 40

Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
45 50 55

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln

DOSLETS. OFESCH

Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly

80 85 90

Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys
95 100 105

Lys Asp Ser Ala Val Lys Pro Asp Arg Ala Ala Thr Pro His His Arg

Pro Gln Pro Arg Ser Val Pro Gly Trp Asp Ser Ala Pro Gly Ala Pro
125 130 135

Ser Pro Ala Asp Ile Thr His Pro Thr Pro Ala Pro Gly Pro Ser Ala 140 145 150 155

His Ala Ala Pro Ser Thr Thr Ser Ala Leu Thr Pro Gly Pro Ala Ala
160 165 170

Ala Ala Asp Ala Ala Aser Ser Val Ala Lys Gly Gly Ala 175 180 185

<210> 5

<211> 408

<212> DNA

<213> Homo sapiens

<220>

```
<221> CDS
<222> (1)..(408)
<220>
<221> mat peptide
<222> (64)..(408)
<400> 5
atg age cet etg etc ege ege etg etc gee gea etc etg eag etg
Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu
   -20
                        -15
                                             -10
gcc ccc qcc caq qcc cct qtc tcc cag cct gat gcc cct ggc cac cag
                                                                   96
Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln
                                      5
                                                          10
 -5
                 -1
                      1
agg aaa gtg gtg tca tgg ata gat gtg tat act cgc gct acc tgc cag
                                                                   144
Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln
                                                      25
                                 20
             15
ccc cgg gag gtg gtg ccc ttg act gtg gag ctc atg ggc acc gtg
                                                                   192
Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
                                                  40
         30
                             35
gcc aaa cag ctg gtg ccc agc tgc gtg act gtg cag cgc tgt ggc
                                                                   240
Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
     45
                         50
                                              55
                                                           286
tgc tgc cct gac gat ggc ctg gag tgt gtg ccc act ggg cag cac caa
                                                                   288
Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
 60
                      65
                                          70
                                                              75
```

	2°	74														
gtc	cgg	atg	cag	atc	ctc	atg	atc	cgg	tac	ccg	agc	agt	cag	ctg	aaa	336
Val	Arg	Met	Gln	Ile	Leu	Met	Ile	Arg	Tyr	Pro	Ser	Ser	Gln	Leu	Gly	
				80					85					90		
gag	atg	tcc	ctg	gaa	gaa	cac	agc	cag	tgt	gaa	tgc	aga	cct	aaa	aaa	384
Glu	Met	Ser	Leu	Glu	Glu	His	Ser	Gln	Cys	Glu	Cys	Arg	Pro	Lys	Lys	
			95					100					105			
aag	gac	agt	gct	gtg	aag	cca	gac									408
Lys	Asp	Ser	Ala	Val	Lys	Pro	Asp									
		110					115									
<21	0 > 6															
<21	1> 1:	36														
<21	2> Pl	RT														
<21	3> H	omo :	sapi	ens												٠
<40	0> 6															
Met	Ser	Pro	Leu	Leu	Arg	Arg	Leu	Leu	Leu	Ala	Ala	Leu	Leu	Gln	Leu	
	-20					-15					-10					
									·							
Ala	Pro	Ala	Gln	Ala	Pro	Val	Ser	Gln	Pro	Asp	Ala	Pro	Gly	His	Gln	
-5				-1	1				5					10		

Pro Arg Glu Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val

Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln

20

25

15

Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
45 50 55

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln 60 65 70 75

Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly

80 85 90

Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys
95 100 105

Lys Asp Ser Ala Val Lys Pro Asp 110 115

<210> 7

<211> 5614

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
 pSecTagA-VEGF-B167-H6

<400> 7

gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180 ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240 gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300 tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360 cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420 attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540 atgeceagta catgacetta tgggaettte etaettggea gtacatetae gtattagtea 600 tegetattae catggtgatg eggttttgge agtacateaa tgggegtgga tageggtttg 660 actcacgggg atttccaagt ctccaccca ttgacgtcaa tgggagtttg ttttggcacc 720 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840 ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagt 900 ccagtgtggt ggaattegge tteaceatga geeetetget eegeegeetg etgetegeeg 960 cacteetgea getggeeece geeeaggeee etgteteeea geetgatgee eetggeeace 1020 agaggaaagt ggtgtcatgg atagatgtgt atactcgcgc tacctgccag ccccgggagg 1080 tggtggtgcc cttgactgtg gagctcatgg gcaccgtggc caaacagctg gtgcccagct 1140 gcgtgactgt gcagcgctgt ggtggctgct gccctgacga tggcctggag tgtgtgccca 1200 ctgggcagca ccaagtccgg atgcagatcc tcatgatccg gtacccgagc agtcagctgg 1260 gggagatgtc cctggaagaa cacagccagt gtgaatgcag acctaaaaaa aaggacagtg 1320 etgtgaagee agaeageeee aggeeeetet geeeaegetg caeeeageae caeeagegee 1380 etgacececg gacetgeege tgeegetgee gaegeegeag etteeteegt tgeeaaggge 1440 ggggcttaga gctcaaccca gacacctgca ggtgccggaa gctgcgaagg catcatcatc 1500 atcatcattg ageggeeget egagtetaga gggeeegaac aaaaacteat eteagaagag 1560 gatctgaata gcgccgtcga ccatcatcat catcatcatt gagtttaaac ccgctgatca 1620 geotegactg tgeettetag ttgeeageea tetgttgttt geeecteece egtgeettee 1680 ttgaccctgg aaggtgccac tcccactgtc ctttcctaat aaaatgagga aattgcatcg 1740 cattgtctga gtaggtgtca ttctattctg gggggtgggg tggggcagga cagcaagggg 1800 gaggattggg aagacaatag caggcatgct ggggatgcgg tgggctctat ggcttctgag 1860 gcggaaagaa ccagctgggg ctctaggggg tatccccacg cgccctgtag cggcgcatta 1920

agegeggegg gtgtggtggt taegegeage gtgaeegeta eaettgeeag egeeetageg 1980 cocgctectt tegetttett ecetteettt etegecaegt tegeeggett teecegteaa 2040 gctctaaatc ggggcatccc tttagggttc cgatttagtg ctttacggca cctcgacccc 2100 aaaaaacttg attagggtga tggttcacgt agtgggccat cgccctgata gacggttttt 2160 cgccctttga cgttggagtc cacgttcttt aatagtggac tcttgttcca aactggaaca 2220 acactcaacc ctatctcggt ctattctttt gatttataag ggattttggg gatttcggcc 2280 tattggttaa aaaatgagct gatttaacaa aaatttaacg cgaattaatt ctgtggaatg 2340 tgtgtcagtt agggtgtgga aagtccccag gctccccagc aggcagaagt atgcaaagca 2400 tgcatctcaa ttagtcagca accaggtgtg gaaagtcccc aggetcccca gcaggcagaa 2460 gtatgcaaag catgcatctc aattagtcag caaccatagt cccgccccta actccgccca 2520 tecegeeet aacteegeee agtteegeee atteteegee eeatggetga etaatttttt 2580 ttatttatgc agaggccgag gccgcctctg cctctgagct attccagaag tagtgaggag 2640 gettetttgg aggeetagge tettgeaaaa ageteeggg agettgtata teeatteteg 2700 gatctgatca gcacgtgttg acaattaatc atcggcatag tatatcggca tagtataata 2760 cgacaaggtg aggaactaaa ccatggccaa gttgaccagt gccgttccgg tgctcaccgc 2820

gegegaegte geeggagegg tegagttetg gaeegaeegg etegggttet eeegggaett 2880 cgtggaggac gacttcgccg gtgtggtccg ggacgacgtg accctgttca tcagcgcggt 2940 ccaggaccag gtggtgccgg acaacacct ggcctgggtg tgggtgcgcg gcctggacga 3000 gctgtacgcc gagtggtcgg aggtcgtgtc cacgaacttc cgggacgcct ccgggccggc 3060 catgacegag ateggegage ageegtgggg gegggagtte geeetgegeg acceggeegg 3120 caactgcgtg cacttcgtgg ccgaggagca ggactgacac gtgctacgag atttcgattc 3180 caccgccgcc ttctatgaaa ggttgggctt cggaatcgtt ttccgggacg ccggctggat 3240 gatectecag egeggggate teatgetgga gttettegee caceecaaet tgtttattge 3300 agcttataat ggttacaaat aaagcaatag catcacaaat ttcacaaata aagcattttt 3360 ttcactgcat tctagttgtg gtttgtccaa actcatcaat gtatcttatc atgtctgtat 3420 accgtcgacc tctagctaga gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa 3480 ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt gtaaagcctg 3540 gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc ccgctttcca 3600 gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg ggagaggcgg 3660 tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct cggtcgttcg 3720 gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca cagaatcagg 3780

ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga accgtaaaaa 3840 ggccgcgttg ctggcgtttt tccataggct ccgccccct gacgagcatc acaaaaatcg 3900 acgeteaagt cagaggtgge gaaaceegae aggaetataa agataceagg egttteeece 3960 tggaagetee etegtgeget eteetgttee gaeeetgeeg ettaeeggat acetgteege 4020 ctttctccct tcgggaagcg tggcgctttc tcaatgctca cgctgtaggt atctcagttc 4080: ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc agcccgaccg 4140 ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg acttatcgcc 4200 actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg gtgctacaga 4260 gttcttgaag tggtggccta actacggcta cactagaagg acagtatttg gtatctgcgc 4320 tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg gcaaacaaac 4380 caccgctggt ageggtggtt tttttgtttg caagcagcag attacgegca gaaaaaaagg 4440 atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagtgga acgaaaactc 4500 acgttaaggg attttggtca tgagattatc aaaaaggatc ttcacctaga tccttttaaa 4560 ttaaaaatga agttttaaat caatctaaag tatatatgag taaacttggt ctgacagtta 4620 ccaatgctta atcagtgagg cacctatctc agcgatctgt ctatttcgtt catccatagt 4680

tgcctgactc cccgtcgtgt agataactac gatacgggag ggcttaccat ctggccccag 4740 tgctgcaatg ataccgcgag acccacgctc accggctcca gatttatcag caataaacca 4800 gccagccgga agggccgagc gcagaagtgg tcctgcaact ttatccgcct ccatccagtc 4860 tattaattgt tgccgggaag ctagagtaag tagttcgcca gttaatagtt tgcgcaacgt 4920 tgttgccatt gctacaggca tcgtggtgtc acgctcgtcg tttggtatgg cttcattcag 4980 ctccggttcc caacgatcaa ggcgagttac atgatccccc atgttgtgca aaaaagcggt 5040 tageteette ggteeteega tegttgteag aagtaagttg geegeagtgt tateaeteat 5100 ggttatggca gcactgcata attetettae tgteatgeca teegtaagat gettttetgt 5160 gactggtgag tactcaacca agtcattctg agaatagtgt atgcggcgac cgagttgctc 5220 ttgcccggcg tcaatacggg ataataccgc gccacatagc agaactttaa aagtgctcat 5280 cattggaaaa cgttcttcgg ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag 5340 ttcgatgtaa cccactcgtg cacccaactg atcttcagca tcttttactt tcaccagcgt 5400 ttctgggtga gcaaaaacag gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg 5460 gaaatgttga atactcatac tcttcctttt tcaatattat tgaagcattt atcagggtta 5520

ttgtctcatg agcggataca tatttgaatg tatttagaaa aataaacaaa taggggttcc 5580

<210> 8

<211> 5614

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pSecTagA-VEGF-B167-H6-NXT

<400> 8

gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180 ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240 gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300 tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360 cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420 attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480

atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540

atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600 tegetattae catggtgatg eggttttgge agtacateaa tgggegtgga tageggtttg 660 acteacgggg atttecaagt etecaceeca ttgacgteaa tgggagtttg ttttggcace 720 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840 ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagt 900 ccagtgtggt ggaattcggc ttcaccatga gccctctgct ccgccgcctg ctgctcgccg 960 cacteetgea getggeecce geceaggeec etgtetecca geetgatgee eetggeeace 1020 agaggaaagt ggtgtcatgg atagatgtgt atactcgcgc tacctgccag ccccgggagg 1080 tggtggtgcc cttgactgtg gagctcatgg gcaccgtggc caaacagctg gtgcccagct 1140 gegtgactgt geagegetgt ggtggetget geeetgaega tggeetggag tgtgtgeeca 1200 ctgggcagca caacgtcacc atgcagatcc tcatgatccg gtacccgagc agtcagctgg 1260 gggagatgtc cctggaagaa cacagccagt gtgaatgcag acctaaaaaa aaggacagtg 1320 ctgtgaagcc agacagcccc aggcccctct gcccacgctg cacccagcac caccagcgcc 1380 ctgacccccg gacctgccgc tgccgctgcc gacgccgcag cttcctccgt tgccaagggc 1440

ggggcttaga gctcaaccca gacacctgca ggtgccggaa gctgcgaagg catcatcatc 1500 atcatcattg agcggccgct cgagtctaga gggcccgaac aaaaactcat ctcagaagag 1560 gatctgaata gcgccgtcga ccatcatcat catcatcatt gagtttaaac ccgctgatca 1620 geetegactg tgeettetag ttgecageca tetgttgttt geeceteece egtgeettee 1680 ttgaccctgg aaggtgccac tcccactgtc ctttcctaat aaaatgagga aattgcatcg 1740 cattgtctga gtaggtgtca ttctattctg gggggtgggg tggggcagga cagcaagggg 1800 gaggattggg aagacaatag caggcatgct ggggatgcgg tgggctctat ggcttctgag 1860 gcggaaagaa ccagctgggg ctctaggggg tatccccacg cgccctgtag cggcgcatta 1920 agegeggegg gtgtggtggt taegegeage gtgacegeta caettgeeag egeeetageg 1980 coegeteett tegetttett ceetteettt etegecaegt tegeeggett teecegteaa 2040 gctctaaatc ggggcatccc tttagggttc cgatttagtg ctttacggca cctcgacccc 2100 aaaaaacttg attagggtga tggttcacgt agtgggccat cgccctgata gacggttttt 2160 cgccctttga cgttggagtc cacgttcttt aatagtggac tcttgttcca aactggaaca 2220 acactcaacc ctatctcggt ctattctttt gatttataag ggattttggg gatttcggcc 2280 tattggttaa aaaatgagct gatttaacaa aaatttaacg cgaattaatt ctgtggaatg 2340

tgtgtcagtt agggtgtgga aagtccccag gctccccagc aggcagaagt atgcaaagca 2400 tgcatctcaa ttagtcagca accaggtgtg gaaagtcccc aggctcccca gcaggcagaa 2460 gtatgcaaag catgcatctc aattagtcag caaccatagt cccgccccta actccgccca 2520 tecegeeet aacteegee agtteegee atteteegee ceatggetga etaattttt 2580 ttatttatgc agaggccgag gccgcctctg cctctgagct attccagaag tagtgaggag 2640 gcttttttgg aggcctaggc ttttgcaaaa agctcccggg agcttgtata tccattttcg 2700 gatctgatca gcacgtgttg acaattaatc atcggcatag tatatcggca tagtataata 2760 cgacaaggtg aggaactaaa ccatggccaa gttgaccagt gccgttccgg tgctcaccgc 2820 gcgcgacgtc gccggagcgg tcgagttctg gaccgaccgg ctcgggttct cccgggactt 2880 cgtggaggac gacttcgccg gtgtggtccg ggacgacgtg accetgttca tcagegeggt 2940 ccaggaccag gtggtgccgg acaacaccct ggcctgggtg tgggtgcgcg gcctggacga 3000 gctgtacgcc gagtggtcgg aggtcgtgtc cacgaacttc cgggacgcct ccgggccggc 3060 catgaccgag atcggcgagc agccgtgggg gcgggagttc gccctgcgcg acccggccgg 3120 caactgcgtg cacttcgtgg ccgaggagca ggactgacac gtgctacgag atttcgattc 3180 caccgccgcc ttctatgaaa ggttgggctt cggaatcgtt ttccggggacg ccggctggat 3240 gatcctccag cgcggggatc tcatgctgga gttcttcgcc caccccaact tgtttattgc 3300

agettataat ggttacaaat aaageaatag cateacaaat tteacaaata aageattttt 3360 ttcactgcat tctagttgtg gtttgtccaa actcatcaat gtatcttatc atgtctgtat 3420 accgtcgacc tctagctaga gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa 3480 ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt gtaaagcctg 3540 gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc ccgctttcca 3600 gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg ggagaggcgg 3660 tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct cggtcgttcg 3720 gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca cagaatcagg 3780 ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga accgtaaaaa 3840 ggccgcgttg ctggcgtttt tccataggct ccgccccct gacgagcatc acaaaaatcg 3900 acgeteaagt cagaggtgge gaaaceegae aggaetataa agataceagg egttteeece 3960 tggaagetee etegtgeget etectgttee gaecetgeeg ettaceggat acetgteege 4020 ctttctccct tcgggaagcg tggcgctttc tcaatgctca cgctgtaggt atctcagttc 4080 ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc agcccgaccg 4140 ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg acttatcgcc 4200

actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg gtgctacaga 4260 gttcttgaag tggtggccta actacggcta cactagaagg acagtatttg gtatctgcgc 4320 tetgetgaag ceagttacet teggaaaaag agttggtage tettgateeg geaaacaaac 4380 caccgctggt agcggtggtt tttttgtttg caagcagcag attacgcgca gaaaaaaagg 4440 atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagtgga acgaaaactc 4500 acgttaaggg attttggtca tgagattatc aaaaaggatc ttcacctaga tccttttaaa 4560 ttaaaaatga agttttaaat caatctaaag tatatatgag taaacttggt ctgacagtta 4620 ccaatgctta atcagtgagg cacctatctc agcgatctgt ctatttcgtt catccatagt 4680 tgcctgactc cccgtcgtgt agataactac gatacgggag ggcttaccat ctggccccag 4740 tgctgcaatg ataccgcgag acccacgctc accggctcca gatttatcag caataaacca 4800 gccagccgga agggccgagc gcagaagtgg tcctgcaact ttatccgcct ccatccagtc 4860 tattaattgt tgccgggaag ctagagtaag tagttcgcca gttaatagtt tgcgcaacgt 4920 tgttgccatt gctacaggca tcgtggtgtc acgctcgtcg tttggtatgg cttcattcag 4980 etceggttee caacgateaa ggegagttae atgateeece atgttgtgea aaaaageggt 5040

tageteette ggteeteega tegttgteag aagtaagttg geegeagtgt tateacteat 5100

gactggtgag tactcaacca agtcattctg agaatagtgt atgcgggac cgagttgctc 5220
ttgcccggcg tcaatacggg ataataccgc gccacatagc agaactttaa aagtgctcat 5280
cattggaaaa cgttcttcgg ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag 5340
ttcgatgtaa cccactcgtg cacccaactg atcttcagca tctttactt tcaccagcgt 5400
ttctgggtga gcaaaaacag gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg 5460
gaaatgttga atactcatac tcttcctttt tcaatattat tgaaggcattt atcagggtta 5520
ttgtctcatg agcggataca tatttgaatg tatttagaaa aataaacaaa taggggttcc 5580
gcgcacattt ccccgaaaag tgccacctga cgtc 5614

<210> 9

<211> 5695

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
 pSecTagA-VEGF-B186-H6-NXT

<400> 9

gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120 cgagcaaaat ttaagctaca acaaggcaag gettgaccga caattgcatg aagaatetgc 180 ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240 gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300 tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360 cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420 attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540 atgcccagta catgacetta tgggaettte etaettggea gtacatetae gtattagtea 600 tegetattae catggtgatg eggttttgge agtacateaa tgggegtgga tageggtttg 660 acteacgggg atttccaagt ctccaccca ttgacgtcaa tgggagtttg ttttggcacc 720 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840 ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagt 900 ccagtgtggt ggaattcggc ttcaccatga gccctctgct ccgccgcctg ctgctcgccg 960

cacteetgea getggeecee geecaggeee etgteteeca geetgatgee eetggeeace 1020 agaggaaagt ggtgtcatgg atagatgtgt atactcgcgc tacctgccag ccccgggagg 1080 tggtggtgcc cttgactgtg gagctcatgg gcaccgtggc caaacagctg gtgcccagct 1140 gcgtgactgt gcagcgctgt ggtggctgct gccctgacga tggcctggag tgtgtgccca 1200 ctgggcagca caacgtcacc atgcagatcc tcatgatccg gtacccgagc agtcagctgg 1260 gggagatgtc cctggaagaa cacagccagt gtgaatgcag acctaaaaaa aaggacagtg 1320 ctgtgaagcc agacagggct gccactcccc accaccgtcc ccagccccgt tctgttccgg 1380 gctgggactc tgccccgga gcaccetece cagetgacat cacceatece actecagece 1440 caggecette tgeccaeget geacceagea ceaecagege cetgaecece ggaectgeeg 1500 cegeegetge egaegeegea getteeteeg ttgccaaggg eggggeteat cateateate 1560 atcattgaat totgoagata tocagoacag tggoggoogo togagtotag agggoocgaa 1620 caaaaactca tctcagaaga ggatctgaat agcgccgtcg accatcatca tcatcatcat 1680 tgagtttaaa cccgctgatc agcctcgact gtgccttcta gttgccagcc atctgttgtt 1740 tgcccctccc ccgtgccttc cttgaccctg gaaggtgcca ctcccactgt cctttcctaa 1800

gtggggcagg acagcaaggg ggaggattgg gaagacaata gcaggcatgc tggggatgcg 1920 gtgggctcta tggcttctga ggcggaaaga accagctggg gctctagggg gtatccccac 1980 gegeeetgta geggegeatt aagegeggeg ggtgtggtgg ttaegegeag egtgaeeget 2040 acacttgcca gcgccctagc gcccgctcct ttcgctttct tcccttcctt tctcgccacg 2100 ttegeegget tteecegtea agetetaaat eggggeatee etttagggtt eegatttagt 2160 gctttacggc acctcgaccc caaaaaactt gattagggtg atggttcacg tagtgggcca 2220 togccotgat agacggtttt togccotttg acgttggagt coacgttott taatagtgga 2280 ctcttgttcc aaactggaac aacactcaac cctatctcgg tctattcttt tgatttataa 2340 gggattttgg ggatttcggc ctattggtta aaaaatgagc tgatttaaca aaaatttaac 2400 gcgaattaat tctgtggaat gtgtgtcagt tagggtgtgg aaagtcccca ggctccccag 2460 caggcagaag tatgcaaagc atgcatctca attagtcagc aaccaggtgt ggaaagtccc 2520 caggeteece ageaggeaga agtatgeaaa geatgeatet eaattagtea geaaceatag 2580 tecegeeest aasteegees atseegees taasteeges eagtteeges catteteege 2640 cccatggctg actaattttt tttatttatg cagaggccga ggccgcctct gcctctgagc 2700 tattccagaa gtagtgagga ggcttttttg gaggcctagg cttttgcaaa aagctcccgg 2760 gagettgtat atecatttte ggatetgate ageaegtgtt gaeaattaat eateggeata 2820

gtatatcggc atagtataat acgacaaggt gaggaactaa accatggcca agttgaccag 2880 tgccgttccg gtgctcaccg cgcgcgacgt cgccggagcg gtcgagttct ggaccgaccg 2940 gctcgggttc tcccgggact tcgtggagga cgacttcgcc ggtgtggtcc gggacgacgt 3000 gaccetgtte ateagegegg tecaggacea ggtggtgeeg gacaacacee tggeetgggt 3060 gtgggtgcgc ggcctggacg agctgtacgc cgagtggtcg gaggtcgtgt ccacgaactt 3120 cegggacgcc teegggeegg ceatgacega gateggegag eageegtggg ggegggagtt 3180 cgccctgcgc gacccggccg gcaactgcgt gcacttcgtg gccgaggagc aggactgaca 3240 cgtgctacga gatttcgatt ccaccgccgc cttctatgaa aggttgggct tcggaatcgt 3300 tttccgggac gccggctgga tgatcctcca gcgcggggat ctcatgctgg agttcttcgc 3360 ccaccccaac ttgtttattg cagcttataa tggttacaaa taaagcaata gcatcacaaa 3420 tttcacaaat aaagcatttt tttcactgca ttctagttgt ggtttgtcca aactcatcaa 3480 tgtatcttat catgtctgta taccgtcgac ctctagctag agcttggcgt aatcatggtc 3540 atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca tacgagccgg 3600 aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat taattgcgtt 3660 gegeteactg ecegetttee agtegggaaa cetgtegtge cagetgeatt aatgaategg 3720

ccaacgcgcg gggagaggcg gtttgcgtat tgggcgctct tccgcttcct cgctcactga 3780 ctegetgege teggtegtte ggetgeggeg ageggtatea geteaeteaa aggeggtaat 3840 acggttatcc acagaatcag gggataacgc aggaaagaac atgtgagcaa aaggccagca 3900 aaaggccagg aaccgtaaaa aggccgcgtt gctggcgttt ttccataggc tccgccccc 3960 tgacgagcat cacaaaaatc gacgctcaag tcagaggtgg cgaaacccga caggactata 4020 aagataccag gegttteece etggaagete eetegtgege teteetgtte egaceetgee 4080 gcttaccgga tacctgtccg cctttctccc ttcgggaagc gtggcgcttt ctcaatgctc 4140 acgctgtagg tatctcagtt cggtgtaggt cgttcgctcc aagctgggct gtgtgcacga 4200 accecegtt cageeegace getgegeett ateeggtaac tategtettg agteeaacee 4260 ggtaagacac gacttatcgc cactggcagc agccactggt aacaggatta gcagagcgag 4320 gtatgtaggc ggtgctacag agttcttgaa gtggtggcct aactacggct acactagaag 4380 gacagtattt ggtatctgcg ctctgctgaa gccagttacc ttcggaaaaa gagttggtag 4440 ctcttgatcc ggcaaacaaa ccaccgctgg tagcggtggt ttttttgttt gcaagcagca 4500 gattacgcgc agaaaaaaag gatctcaaga agatcctttg atctttcta cggggtctga 4560 cgctcagtgg aacgaaaact cacgttaagg gattttggtc atgagattat caaaaaggat 4620

cttcacctag atccttttaa attaaaaatg aagttttaaa tcaatctaaa gtatatatga 4680 gtaaacttgg tetgacagtt accaatgett aatcagtgag geacetatet cagegatetg 4740 tctatttcgt tcatccatag ttgcctgact ccccgtcgtg tagataacta cgatacggga 4800 gggcttacca tctggcccca gtgctgcaat gataccgcga gacccacgct caccggctcc 4860 agatttatca gcaataaacc agccagccgg aagggccgag cgcagaagtg gtcctgcaac 4920 tttatccgcc tccatccagt ctattaattg ttgccgggaa gctagagtaa gtagttcgcc 4980 agttaatagt ttgcgcaacg ttgttgccat tgctacaggc atcgtggtgt cacgctcgtc 5040 gtttggtatg gcttcattca gctccggttc ccaacgatca aggcgagtta catgatcccc 5100 catgttgtgc aaaaaagcgg ttagctcctt cggtcctccg atcgttgtca gaagtaagtt 5160 ggccgcagtg ttatcactca tggttatggc agcactgcat aattctctta ctgtcatgcc 5220 atccgtaaga tgcttttctg tgactggtga gtactcaacc aagtcattct gagaatagtg 5280 tatgcggcga ccgagttgct cttgcccggc gtcaatacgg gataataccg cgccacatag 5340 cagaacttta aaagtgctca tcattggaaa acgttcttcg gggcgaaaac tctcaaggat 5400 cttaccgctg ttgagatcca gttcgatgta acccactcgt gcacccaact gatcttcagc 5460 atcttttact ttcaccagcg tttctgggtg agcaaaaaca ggaaggcaaa atgccgcaaa 5520

aaagggaata agggcgacac ggaaatgttg aatactcata ctcttccttt ttcaatatta 5580

ttgaagcatt tatcagggtt attgtctcat gagcggatac atatttgaat gtatttagaa 5640

aaataaacaa ataggggttc cgcgcacatt tccccgaaaa gtgccacctg acgtc 5695

<210> 10

<211> 5695

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
 pSecTagA-VEGF-B186-H6

<400> 10

gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180

ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240

gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300

tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420

attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540 atgcccagta catgacetta tgggacttte ctaettggca gtacatetae gtattagtea 600 tegetattae catggtgatg eggttttgge agtacateaa tgggegtgga tageggtttg 660 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840 ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagt 900 ccagtgtggt ggaattcggc ttcaccatga gccctctgct ccgccgcctg ctgctcgccg 960 cacteetgea getggeeece geecaggeee etgteteeca geetgatgee eetggeeace 1020 agaggaaagt ggtgtcatgg atagatgtgt atactcgcgc tacctgccag ccccgggagg 1080 tggtggtgcc cttgactgtg gagctcatgg gcaccgtggc caaacagctg gtgcccagct 1140 gcgtgactgt gcagcgctgt ggtggctgct gccctgacga tggcctggag tgtgtgccca 1200 ctgggcagca ccaagtccgg atgcagatcc tcatgatccg gtacccgagc agtcagctgg 1260 gggagatgtc cctggaagaa cacagccagt gtgaatgcag acctaaaaaa aaggacagtg 1320

ctgtgaagcc agacagggct gccactcccc accaccgtcc ccagccccgt tctgttccgg 1380 gctgggactc tgccccgga gcaccetece cagetgacat cacceatece actecagece 1440 caggececte tgeecaeget geacceagea ceaccagege cetgaeeeee ggaeetgeeg 1500 eegeegetge egaegeegea getteeteeg ttgeeaaggg eggggeteat cateateate 1560 atcattgaat tetgeagata teeageacag tggeggeege tegagtetag agggeeegaa 1620 caaaaactca tctcagaaga ggatctgaat agegeegteg accatcatca tcatcatcat 1680 tgagtttaaa cccgctgatc agcctcgact gtgccttcta gttgccagcc atctgttgtt 1740 tgcccctccc ccgtgccttc cttgaccctg gaaggtgcca ctcccactgt cctttcctaa 1800 gtggggcagg acagcaaggg ggaggattgg gaagacaata gcaggcatgc tggggatgcg 1920 gtgggeteta tggettetga ggeggaaaga accagetggg getetagggg gtateeccae 1980 gegecetgta geggegeatt aagegeggeg ggtgtggtgg ttaegegeag egtgaeeget 2040 acacttgcca gegeeetage geoegeteet ttegetttet teeetteett tetegeeaeg 2100 ttcgccggct ttccccgtca agctctaaat cggggcatcc ctttagggtt ccgatttagt 2160 gctttacggc acctcgaccc caaaaaactt gattagggtg atggttcacg tagtgggcca 2220 tegecetgat agaeggtttt tegecetttg aegttggagt ceaegttett taatagtgga 2280

ctcttgttcc aaactggaac aacactcaac cctatctcgg tctattcttt tgatttataa 2340 gggattttgg ggatttcggc ctattggtta aaaaatgagc tgatttaaca aaaatttaac 2400 gcgaattaat tctgtggaat gtgtgtcagt tagggtgtgg aaagtcccca ggctccccag 2460 caggcagaag tatgcaaagc atgcatctca attagtcagc aaccaggtgt ggaaagtccc 2520 caggeteece ageaggeaga agtatgeaaa geatgeatet caattagtea geaaceatag 2580 tecegeeet aacteegee atecegeee taacteegee cagtteegee catteteege 2640 cccatggctg actaattttt tttatttatg cagaggccga ggccgcctct gcctctgagc 2700 tattccagaa gtagtgagga ggcttttttg gaggcctagg cttttgcaaa aagctcccgg 2760 gagettgtat atecatttte ggatetgate ageaegtgtt gacaattaat categgeata 2820 gtatatcggc atagtataat acgacaaggt gaggaactaa accatggcca agttgaccag 2880 tgccgttccg gtgctcaccg cgcgcgacgt cgccggagcg gtcgagttct ggaccgaccg 2940 getegggtte teeegggact tegtggagga egacttegee ggtgtggtee gggacgaegt 3000 gaccctgttc atcagcgcgg tccaggacca ggtggtgccg gacaacaccc tggcctgggt 3060 gtgggtgcgc ggcctggacg agctgtacgc cgagtggtcg gaggtcgtgt ccacgaactt 3120 cegggaegec teegggeegg ceatgaeega gateggegag eageegtggg ggegggagtt 3180

cgccctgcgc gacccggccg gcaactgcgt gcacttcgtg gccgaggagc aggactgaca 3240 cgtgctacga gatttcgatt ccaccgccgc cttctatgaa aggttgggct tcggaatcgt 3300 tttccgggac gccggctgga tgatcctcca gcgcggggat ctcatgctgg agttcttcgc 3360 ccaccccaac ttgtttattg cagcttataa tggttacaaa taaagcaata gcatcacaaa 3420 tttcacaaat aaagcatttt tttcactgca ttctagttgt ggtttgtcca aactcatcaa 3480 tgtatcttat catgtctgta taccgtcgac ctctagctag agcttggcgt aatcatggtc 3540 atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca tacgagccgg 3600 aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat taattgcgtt 3660 gcgctcactg cccgctttcc agtcgggaaa cctgtcgtgc cagctgcatt aatgaatcgg 3720 ccaacgcgcg gggagaggcg gtttgcgtat tgggcgctct tccgcttcct cgctcactga 3780 etegetgege teggtegtte ggetgeggeg ageggtatea geteaeteaa aggeggtaat 3840 acggttatcc acagaatcag gggataacgc aggaaagaac atgtgagcaa aaggccagca 3900 aaaggccagg aaccgtaaaa aggccgcgtt gctggcgttt ttccataggc tccgccccc 3960 tgacgagcat cacaaaaatc gacgctcaag tcagaggtgg cgaaacccga caggactata 4020 aagataccag gegttteece etggaagete eetegtgege teteetgtte egaceetgee 4080

gcttaccgga tacctgtccg cctttctccc ttcgggaagc gtggcgcttt ctcaatgctc 4140 acgctgtagg tatctcagtt cggtgtaggt cgttcgctcc aagctgggct gtgtgcacga 4200 acccccgtt cagcccgacc gctgcgcctt atccggtaac tatcgtcttg agtccaaccc 4260 ggtaagacac gacttatcgc cactggcagc agccactggt aacaggatta gcagagcgag 4320 gtatgtaggc ggtgctacag agttcttgaa gtggtggcct aactacggct acactagaag 4380 . gacagtattt ggtatctgcg ctctgctgaa gccagttacc ttcggaaaaa gagttggtag 4440 ctcttgatcc ggcaaacaaa ccaccgctgg tagcggtggt ttttttgttt gcaagcagca 4500 gattacgcgc agaaaaaaag gatctcaaga agatcctttg atctttcta cggggtctga 4560 cgctcagtgg aacgaaaact cacgttaagg gattttggtc atgagattat caaaaaggat 4620 cttcacctag atccttttaa attaaaaatg aagttttaaa tcaatctaaa gtatatatga 4680 gtaaacttgg tctgacagtt accaatgctt aatcagtgag gcacctatct cagcgatctg 4740 tctatttcgt tcatccatag ttgcctgact ccccgtcgtg tagataacta cgatacggga 4800 gggcttacca tctggcccca gtgctgcaat gataccgcga gacccacgct caccggctcc 4860 agatttatca gcaataaacc agccagccgg aagggccgag cgcagaagtg gtcctgcaac 4920

tttatccgcc tccatccagt ctattaattg ttgccgggaa gctagagtaa gtagttcgcc 4980

agttaatagt ttgcgcaacg ttgttgccat tgctacaggc atcgtggtgt cacgctcgtc 5040 gtttggtatg gcttcattca gctccggttc ccaacgatca aggcgagtta catgatcccc 5100 catgttgtgc aaaaaagcgg ttagctcctt cggtcctccg atcgttgtca gaagtaagtt 5160 ggccgcagtg ttatcactca tggttatggc agcactgcat aattctctta ctgtcatgcc 5220 atcogtaaga tgcttttctg tgactggtga gtactcaacc aagtcattct gagaatagtg 5280 tatgcggcga ccgagttgct cttgcccggc gtcaatacgg gataataccg cgccacatag 5340 cagaacttta aaagtgetea teattggaaa aegttetteg gggegaaaae teteaaggat 5400 cttaccgctg ttgagatcca gttcgatgta acccactcgt gcacccaact gatcttcagc 5460 atcttttact ttcaccagcg tttctgggtg agcaaaaaca ggaaggcaaa atgccgcaaa 5520 aaagggaata agggcgacac ggaaatgttg aatactcata ctcttccttt ttcaatatta 5580 ttgaagcatt tatcagggtt attgtctcat gagcggatac atatttgaat gtatttagaa 5640

aaataaacaa ataggggttc cgcgcacatt tccccgaaaa gtgccacctg acgtc

5695

<210> 11

<211> 5458

<212> DNA

<213> Artificial Sequence

<223> Description of Artificial Sequence: pSecTagA-VEGF-BEx1-5-H6

<400> 11

gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60 ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120 cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180 ttagggttag gegttttgeg etgettegeg atgtaeggge eagatataeg egttgaeatt 240 gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300 tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360 cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420 attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480 atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540 atgcccagta catgacetta tgggaettte etaettggea gtacatetae gtattagtea 600 tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660 actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780

gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840 ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagt 900 ccagtgtggt ggaattcggc ttcaccatga gccctctgct ccgccgcctg ctgctcgccg 960 cacteetgea getggeecce geecaggeec etgteteeca geetgatgee eetggeeace 1020 agaggaaagt ggtgtcatgg atagatgtgt atactcgcgc tacctgccag ccccgggagg 1080 tggtggtgcc cttgactgtg gagctcatgg gcaccgtggc caaacagctg gtgcccagct 1140 gcgtgactgt gcagcgctgt ggtggctgct gccctgacga tggcctggag tgtgtgccca 1200 ctgggcagca ccaagtccgg atgcagatcc tcatgatccg gtacccgagc agtcagctgg 1260 gggagatgtc cctggaagaa cacagccagt gtgaatgcag acctaaaaaa aaggacagtg 1320 ctgtgaagcc agaccatcat catcatcacc actgagcggc cgctcgagtc tagagggccc 1380 gaacaaaaac tcatctcaga agaggatctg aatagcgccg tcgaccatca tcatcatcat 1440 cattgagttt aaacccgctg atcagcctcg actgtgcctt ctagttgcca gccatctgtt 1500 gtttgcccct cccccgtgcc ttccttgacc ctggaaggtg ccactcccac tgtcctttcc 1560 taataaaatg aggaaattgc atcgcattgt ctgagtaggt gtcattctat tctggggggt 1620 ggggtgggc aggacagcaa gggggaggat tgggaagaca atagcaggca tgctggggat 1680

gcggtgggct ctatggcttc tgaggcggaa agaaccagct ggggctctag ggggtatccc 1740

cacgcgccct gtagcggcgc attaagcgcg gcgggtgtgg tggttacgcg cagcgtgacc 1800 getacaettg ceagegeet agegeeeget cetttegett tettecette etttetegee 1860 acgttcgccg gctttccccg tcaagctcta aatcggggca tccctttagg gttccgattt 1920 agtgctttac ggcacctcga ccccaaaaaa cttgattagg gtgatggttc acgtagtggg 1980 ccatcgccct gatagacggt ttttcgccct ttgacgttgg agtccacgtt ctttaatagt 2040 ggactettgt tecaaactgg aacaacacte aaccetatet eggtetatte ttttgattta 2100 taagggattt tggggatttc ggcctattgg ttaaaaaatg agctgattta acaaaaattt 2160 aacgcgaatt aattetgtgg aatgtgtgte agttagggtg tggaaagtee ceaggeteee 2220 cagcaggcag aagtatgcaa agcatgcatc tcaattagtc agcaaccagg tgtggaaagt 2280 ccccaggctc cccagcaggc agaagtatgc aaagcatgca tctcaattag tcagcaacca 2340 tagtcccgcc cctaactccg cccatcccgc ccctaactcc gcccagttcc gcccattctc 2400 cgccccatgg ctgactaatt ttttttattt atgcagaggc cgaggccgcc tctgcctctg 2460 agctattcca gaagtagtga ggaggctttt ttggaggcct aggcttttgc aaaaagctcc 2520 cgggagcttg tatatccatt ttcggatctg atcagcacgt gttgacaatt aatcatcggc 2580 atagtatatc ggcatagtat aatacgacaa ggtgaggaac taaaccatgg ccaagttgac 2640

cagtgccgtt ccggtgctca ccgcgcgcga cgtcgccgga gcggtcgagt tctggaccga 2700 ceggeteggg tteteceggg acttegtgga ggacgaette geeggtgtgg teegggaega 2760 cgtgaccctg ttcatcagcg cggtccagga ccaggtggtg ccggacaaca ccctggcctg 2820 ggtgtgggtg cgcggcctgg acgagctgta cgccgagtgg tcggaggtcg tgtccacgaa 2880 cttccgggac gcctccgggc cggccatgac cgagatcggc gagcagccgt gggggcggga 2940 gttcgccctg cgcgacccgg ccggcaactg cgtgcacttc gtggccgagg agcaggactg 3000 acacgtgcta cgagatttcg attccaccgc cgccttctat gaaaggttgg gcttcggaat 3060 cgttttccgg gacgccggct ggatgatcct ccagcgcggg gatctcatgc tggagttctt 3120 cgcccacccc aacttgttta ttgcagctta taatggttac aaataaagca atagcatcac 3180 aaatttcaca aataaagcat ttttttcact gcattctagt tgtggtttgt ccaaactcat 3240 caatgtatct tatcatgtct gtataccgtc gacctctagc tagagcttgg cgtaatcatg 3300 gtcatagctg tttcctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc 3360 cggaagcata aagtgtaaag cctggggtgc ctaatgagtg agctaactca cattaattgc 3420 gttgcgctca ctgcccgctt tccagtcggg aaacctgtcg tgccagctgc attaatgaat 3480

cggccaacgc gcggggagag gcggtttgcg tattgggcgc tcttccgctt cctcgctcac 3540

tgactcgctg cgctcggtcg ttcggctgcg gcgagcggta tcagctcact caaaggcggt 3600 aatacggtta tccacagaat caggggataa cgcaggaaag aacatgtgag caaaaggcca 3660 gcaaaaggcc aggaaccgta aaaaggccgc gttgctggcg tttttccata ggctccgccc 3720 ccctgacgag catcacaaaa atcgacgctc aagtcagagg tggcgaaacc cgacaggact 3780 ataaagatac caggogtttc cccctggaag ctccctcgtg cgctctcctg ttccgaccct 3840 gccgcttacc ggatacctgt ccgcctttct cccttcggga agcgtggcgc tttctcaatg 3900 ctcacgctgt aggtatctca gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca 3960 cgaacccccc gttcagcccg accgctgcgc cttatccggt aactatcgtc ttgagtccaa 4020 cccggtaaga cacgacttat cgccactggc agcagccact ggtaacagga ttagcagagc 4080 gaggtatgta ggcggtgcta cagagttctt gaagtggtgg cctaactacg gctacactag 4140 aaggacagta tttggtatct gcgctctgct gaagccagtt accttcggaa aaagagttgg 4200 tagctcttga tccggcaaac aaaccaccgc tggtagcggt ggtttttttg tttgcaagca 4260 gcagattacg cgcagaaaaa aaggatctca agaagatcct ttgatctttt ctacggggtc 4320 tgacgctcag tggaacgaaa actcacgtta agggattttg gtcatgagat tatcaaaaag 4380 gatcttcacc tagatccttt taaattaaaa atgaagtttt aaatcaatct aaagtatata 4440

tgagtaaact tggtctgaca gttaccaatg cttaatcagt gaggcaccta tctcagcgat 4500 ctgtctattt cgttcatcca tagttgcctg actccccgtc gtgtagataa ctacgatacg 4560 ggagggetta ccatctggcc ccagtgctgc aatgataccg cgagacccac gctcaccggc 4620 tccagattta tcagcaataa accagccagc cggaagggcc gagcgcagaa gtggtcctgc 4680 aactttatcc gcctccatcc agtctattaa ttgttgccgg gaagctagag taagtagttc 4740 gccagttaat agtttgcgca acgttgttgc cattgctaca ggcatcgtgg tgtcacgctc 4800 gtcgtttggt atggcttcat tcagctccgg ttcccaacga tcaaggcgag ttacatgatc 4860 ccccatgttg tgcaaaaaag cggttagctc cttcggtcct ccgatcgttg tcagaagtaa 4920 gttggccgca gtgttatcac tcatggttat ggcagcactg cataattctc ttactgtcat 4980 gccatccgta agatgctttt ctgtgactgg tgagtactca accaagtcat tctgagaata 5040 gtgtatgcgg cgaccgagtt gctcttgccc ggcgtcaata cgggataata ccgcgccaca 5100 tagcagaact ttaaaagtgc tcatcattgg aaaacgttct tcggggcgaa aactctcaag 5160 gatcttaccg ctgttgagat ccagttcgat gtaacccact cgtgcaccca actgatcttc 5220 agcatctttt actttcacca gcgtttctgg gtgagcaaaa acaggaaggc aaaatgccgc 5280 aaaaaaggga ataagggcga cacggaaatg ttgaatactc atactcttcc tttttcaata 5340 ttattgaagc atttatcagg gttattgtct catgagcgga tacatatttg aatgtattta 5400

<210> 12

<211> 5458

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
 pSecTagA-VEGF-BEx1-5-H6-NXT

<400> 12

gacggatcgg gagatctccc gatccctat ggtcgactct cagtacaatc tgctctgatg 60
ccgcatagtt aagccagtat ctgctcctg cttgtgtgtt ggaggtcgct gagtagtgcg 120
cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180
ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240
gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300
tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420

attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480

atcatatgcc aagtacgccc cetattgacg tcaatgacgg taaatggccc gcctggcatt 540 atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600 tegetattae catggtgatg eggttttgge agtacateaa tgggegtgga tageggtttg 660 actcacgggg atttccaagt ctccaccca ttgacgtcaa tgggagtttg ttttggcacc 720 aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780 gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840 ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagt 900 ccagtgtggt ggaattcggc ttcaccatga gccctctgct ccgccgcctg ctgctcgccg 960 cacteetgea getggeecee geecaggeee etgteteeca geetgatgee eetggeeace 1020 agaggaaagt ggtgtcatgg atagatgtgt atactcgcgc tacctgccag ccccgggagg 1080 tggtggtgcc cttgactgtg gagctcatgg gcaccgtggc caaacagctg gtgcccagct 1140 gcgtgactgt gcagcgctgt ggtggctgct gccctgacga tggcctggag tgtgtgccca 1200 etgggeagea caaegteace atgeagatee teatgateeg gtaceegage agteagetgg 1260 gggagatgtc cctggaagaa cacagccagt gtgaatgcag acctaaaaaa aaggacagtg 1320 ctgtgaagcc agaccatcat catcatcacc actgagcgc cgctcgagtc tagagggccc 1380 gaacaaaaac tcatctcaga agaggatctg aatagcgccg tcgaccatca tcatcatcat 1440

cattgagttt aaacccgctg atcagcctcg actgtgcctt ctagttgcca gccatctgtt 1500 gtttgcccct cccccgtgcc ttccttgacc ctggaaggtg ccactcccac tgtcctttcc 1560 taataaaatg aggaaattgc atcgcattgt ctgagtaggt gtcattctat tctggggggt 1620 ggggtggggc aggacagcaa gggggaggat tgggaagaca atagcaggca tgctggggat 1680 gcggtgggct ctatggcttc tgaggcggaa agaaccagct ggggctctag ggggtatccc 1740 cacgcgccct gtagcggcgc attaagcgcg gcgggtgtgg tggttacgcg cagcgtgacc 1800 gctacacttg ccagcgccct agcgcccgct cctttcgctt tcttcccttc ctttctcgcc 1860 acgttcgccg gctttccccg tcaagctcta aatcggggca tccctttagg gttccgattt 1920 agtgctttac ggcacctcga ccccaaaaaa cttgattagg gtgatggttc acgtagtggg 1980 ccatcgccct gatagacggt ttttcgccct ttgacgttgg agtccacgtt ctttaatagt 2040 ggactettgt tecaaactgg aacaacacte aaccetatet eggtetatte ttttgattta 2100 taagggattt tggggatttc ggcctattgg ttaaaaaatg agctgattta acaaaaattt 2160 aacgcgaatt aattetgtgg aatgtgtgte agttagggtg tggaaagtee ceaggeteee 2220 cagcaggcag aagtatgcaa agcatgcatc tcaattagtc agcaaccagg tgtggaaagt 2280 ccccaggete eccageagge agaagtatge aaageatgea teteaattag teageaacea 2340

tagtcccgcc cctaactccg cccatcccgc ccctaactcc gcccagttcc gcccattctc 2400 cgccccatgg ctgactaatt ttttttattt atgcagaggc cgaggccgcc tctgcctctg 2460 agctattcca gaagtagtga ggaggctttt ttggaggcct aggcttttgc aaaaagctcc 2520 cgggagcttg tatatccatt ttcggatctg atcagcacgt gttgacaatt aatcatcggc 2580 atagtatatc ggcatagtat aatacgacaa ggtgaggaac taaaccatgg ccaagttgac 2640 cagtgccgtt ccggtgctca ccgcgcgcga cgtcgccgga gcggtcgagt tctggaccga 2700 ceggeteggg tteteceggg acttegtgga ggacgaette geeggtgtgg teegggaega 2760 cgtgaccctg ttcatcagcg cggtccagga ccaggtggtg ccggacaaca ccctggcctg 2820 ggtgtgggtg cgcggcctgg acgagctgta cgccgagtgg tcggaggtcg tgtccacgaa 2880 cttccgggac gcctccgggc cggccatgac cgagatcggc gagcagccgt gggggcggga 2940 gttcgccctg cgcgacccgg ccggcaactg cgtgcacttc gtggccgagg agcaggactg 3000 acacgtgcta cgagatttcg attccaccgc cgccttctat gaaaggttgg gcttcggaat 3060 cgttttccgg gacgccggct ggatgatcct ccagcgcggg gatctcatgc tggagttctt 3120 cgcccacccc aacttgttta ttgcagctta taatggttac aaataaagca atagcatcac 3180

aaatttcaca aataaagcat ttttttcact gcattctagt tgtggtttgt ccaaactcat 3240

caatgtatct tatcatgtct gtataccgtc gacctctagc tagagcttgg cgtaatcatg 3300 gtcatagctg tttcctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc 3360 cggaagcata aagtgtaaag cctggggtgc ctaatgagtg agctaactca cattaattgc 3420 gttgcgctca ctgcccgctt tccagtcggg aaacctgtcg tgccagctgc attaatgaat 3480 cggccaacgc gcggggagag gcggtttgcg tattgggcgc tcttccgctt cctcgctcac 3540 tgactcgctg cgctcggtcg ttcggctgcg gcgagcggta tcagctcact caaaggcggt 3600 aatacggtta tccacagaat caggggataa cgcaggaaag aacatgtgag caaaaggcca 3660 gcaaaaggcc aggaaccgta aaaaggccgc gttgctggcg tttttccata ggctccgccc 3720 ccctgacgag catcacaaaa atcgacgctc aagtcagagg tggcgaaacc cgacaggact 3780 ataaagatac caggegtttc cccctggaag ctccctcgtg cgctctcctg ttccgaccct 3840 gccgcttacc ggatacctgt ccgcctttct cccttcggga agcgtggcgc tttctcaatg 3900 ctcacgctgt aggtatctca gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca 3960 cgaacccccc gttcagcccg accgctgcgc cttatccggt aactatcgtc ttgagtccaa 4020 cccggtaaga cacgacttat cgccactggc agcagccact ggtaacagga ttagcagagc 4080

gaggtatgta ggcggtgcta cagagttctt gaagtggtgg cctaactacg gctacactag 4140

aaggacagta tttggtatct gcgctctgct gaagccagtt accttcggaa aaagagttgg 4200 tagetettga teeggeaaac aaaceacege tggtageggt ggtttttttg tttgeaagea 4260 gcagattacg cgcagaaaaa aaggatctca agaagatcct ttgatctttt ctacggggtc 4320 tgacgctcag tggaacgaaa actcacgtta agggattttg gtcatgagat tatcaaaaag 4380 gatcttcacc tagatccttt taaattaaaa atgaagtttt aaatcaatct aaagtatata 4440 tgagtaaact tggtctgaca gttaccaatg cttaatcagt gaggcaccta tctcagcgat 4500 ctgtctattt cgttcatcca tagttgcctg actccccgtc gtgtagataa ctacgatacg 4560 ggagggetta ccatetggee ecagtgetge aatgataceg egagaceeae geteaeegge 4620 tccagattta tcagcaataa accagccagc cggaagggcc gagcgcagaa gtggtcctgc 4680 aactttatcc gcctccatcc agtctattaa ttgttgccgg gaagctagag taagtagttc 4740 gccagttaat agtttgcgca acgttgttgc cattgctaca ggcatcgtgg tgtcacgctc 4800 gtcgtttggt atggcttcat tcagctccgg ttcccaacga tcaaggcgag ttacatgatc 4860 ccccatgttg tgcaaaaaag cggttagctc cttcggtcct ccgatcgttg tcagaagtaa 4920 gttggccgca gtgttatcac tcatggttat ggcagcactg cataattctc ttactgtcat 4980 gccatccgta agatgctttt ctgtgactgg tgagtactca accaagtcat tctgagaata 5040

gtgtatgcgg cgaccgagtt gctcttgccc ggcgtcaata cgggataata ccgcgccaca 5100

tagcagaact ttaaaagtgc tcatcattgg aaaacgttct tcggggggaa aactctcaag 5160
gatcttaccg ctgttgagat ccagttcgat gtaacccact cgtgcaccca actgatcttc 5220
agcatctttt actttcacca gcgtttctgg gtgagcaaaa acaggaaggc aaaatgccgc 5280
aaaaaaggga ataagggcga cacggaaatg ttgaatactc atactcttcc ttttcaata 5340
ttattgaagc atttatcagg gttattgtct catgagcgga tacatatttg aatgtatta 5400
gaaaaataaa caaatagggg ttccgcgcac atttccccga aaagtgccac ctgacgtc 5458

<210> 13

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer to
 introduce a N-glycosylation site at positions
 289-297 of SEQ ID NO:3 (VEGF-B186)

<400> 13

teggtacegg ateatgagga tetgcatggt gaegttgtge tgeceagtgg eea

53

<210> 14

<211> 21

<212> DNA

<213> Artificial Sequence

```
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: PCR 5' primer
      for amplification of nucleotides 250 to 567 from
      Genebank Acc. No. U48801
<400> 14
cctgacgatg gcctggagtg t
<210> 15
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: PCR 3' primer
      for amplification of nucleotides 250 to 567 from
      Genebank Acc. No. U48801
<400> 15
gageggeege teaatgatga tgatgatgat geettegeag etteeggeae
                                                                   50
<210> 16
<211> 20
```

21

<220>

<223> Description of Artificial Sequence: PCR 5' primer for amplification of nucleotides 1 to 411 from Genebank Acc. No. U48801

<400> 16

caccatgage cetetgetee

20

<210> 17

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR 3'

primer for amplification of nucleotides 1 to 411

from Genebank Acc. No. U48801

<400> 17

gagcggccgc tcagtggtga tgatgatggt ctggcttcac agcactg

47